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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/555,387	08/16/2006	Jenni Haapiainen	27058U	9507
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EXAMINER O HERN, BRENT T				
ART UNIT		PAPER NUMBER		
1783				
MAIL DATE		DELIVERY MODE		
07/20/2010		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/555,387

**Applicant(s)**

HAAPAINEN ET AL.

**Examiner**

BRENT T. O'HERN

**Art Unit**

1783

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 July 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4,5,9-13 and 18-21 is/are pending in the application.
- 4a) Of the above claim(s) 13,20 and 21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,9-12,18 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claims***

1. A notice of non compliant amendment noting improper status identifiers for claims 16-17 was mailed 7/12/2010. Applicant's Paper filed 7/15/2010 with revised status identifiers for claims 16-17 is noted. Claims 1-2, 4-5, 9-13 and 18-21 are pending with claims 13 and 20-21 withdrawn and claims 20-21 new. Newly submitted claims 20-21 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: A restriction requirement was mailed 6/23/2009. In response to the restriction requirement mailed 6/23/2009 Applicant elected to prosecute Group I, claims 1-12 and 14-15 in Applicant's Paper filed 7/20/2009. Unity of invention is lacking between Groups I-II and new claims 20-21, Group III, as the product linking the inventions is either obvious or anticipated by US 2002/0102326 and/or US 6,060,519. Since Applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 20-21 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### **WITHDRAWN OBJECTIONS/REJECTIONS**

2. All objections/rejections of record in the Office action mailed 4/6/2010 have been withdrawn due to Applicant's amendments in the Paper filed 7/15/2010.

### **NEW REJECTIONS**

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 103***

4. Claims 1-2, 4-5, 9-11 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Camburn (US 5,552,175) in view of Morgan (US 6,426,201).

Regarding claims 1-2, 4-5 and 18-19, Camburn ('175) teaches a method of solubilising a food stuff containing  $\beta$ -glucan and/or pentosan wherein the method improves digestive solubility for fodder and a food source for animals or humans (*See claims 1-8 and 12, col. 2, ll. 19-51, col. 2, l. 62 to col. 3, l. 16 and col. 7, ll. 4-11.*) where the material is a milled barley grain (*See col. 5, ll. 33-36.*). A person having ordinary skill in the art knows that the claimed grains contain  $\beta$ -glucan and/or pentosan. Applicant acknowledges this in the Specification, including page 4, line 26+. The milled material has a particle size less than 200  $\mu\text{m}$  (*See col. 7, ll. 4-8.*) which overlaps the claimed the claimed range of less than 100  $\mu\text{m}$  (*See MPEP 2144.05 where a prima facie case of obviousness exists for overlapping ranges.*).

Camburn ('175) teaches that when the material is solubilised after milling the solubility is 55% by weight in water (*See col. 2, ll. 19-51.*). The mechanical energy input is from about 0.124 to about 0.16 kWh/kg (*See claim 1, col. 7, l. 3 and col. 8, l. 65. This range overlaps the claimed range of 0.15 to about 0.39 kWh/kg. See MPEP 2144.05 where a prima facie case of obviousness exists for overlapping ranges.*). The material has improved solubility of  $\beta$ -glucan or pentosan since milling the solid material reduces the particle size, thus, improving the solubility (*See claim 1, col. 5, ll. 33-36 and col. 7, ll.*

4-11.). Barley and the other grains are known to contain amylopectin (*See claim 1, col. 5, ll. 33-36 and col. 7, ll. 4-11.*). Camburn ('175) teaches that the material to be crushed contains amylopectin or a material rich in amylopectin mixed with another biological material containing non-starch polysaccharides, such as oat grains or their fractions (*See claim 1, col. 5, ll. 33-36 and col. 7, ll. 4-11.*). When the material is added to water it obviously has the capacity to generate viscosity as all if not all materials do. The claims do not state the viscosity of the mixture is increased or decreased when added to water. Camburn ('175) does not set forth all of the above specific parameters being attributable to a vegetable material formed from whole barley grain. However, a person having ordinary skill in the art would obviously interpret Camburn's ('175) process to be usable for barley or the other alternative grains as barley is an alternative grain as taught by Camburn ('175) (*See col. 5, ll. 33-36.*) and as discussed above these alternative grains have similar compositions including  $\beta$ -glucan and/or pentosan.

Camburn ('175) fails to expressly disclose the vegetable material selected from the group consisting of whole oat grain, whole rye grain and an oat bran concentrate.

Morgan ('201) teaches whole barley, oats, rye and wheat grains all alternatively containing  $\beta$ -glucans (*See col. 2, ll. 61-67.*) and can be powder milled and extracted with water (*See Abstract and col. 3, ll. 65-67.*) for the purpose of providing a more nutritious and digestible food for animals and products for human consumption (*See col. 5, l. 64 to col. 6, l. 14 and col. 11, ll. 10-18.*).

Therefore, it would have been obvious to process the alternative grains as taught by Morgan ('201) and claimed by Camburn's ('175) process in order to provide foods that are more nutritious for animals and humans.

Regarding claim 9, Camburn ('175) teaches the mechanical energy is generated by the joint effect of heat, pressure and shearing forces (*See claims 1-8 and 12, col. 2, ll. 19-51, col. 2, l. 62 to col. 3, l. 16, col. 6, ll. 36-46 and col. 7, ll. 4-11.*).

Regarding claim 10, Camburn ('175) teaches the crushing being performed by extrusion (*See claims 1-8 and 12, col. 2, ll. 19-51, col. 2, l. 62 to col. 3, l. 16 and col. 7, ll. 4-11.*).

Regarding claim 11, Camburn ('175) teaches that the material to be crushed is pre-treated to moisture in the range from 6 to 20% (*See col. 6, ll. 36-46.*).

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Camburn (US 5,552,175) in view of Morgan (US 6,426,201) and Lehtomaki et al. (US 5,106,640).

Camburn ('175) and Morgan ('201) teach the method discussed above, however, fail to expressly disclose that the material to be crushed is mixed with a greater amount of liquid medium and the mixture is homogenized under a pressure of 50 to 800 bar.

However, Lehtomaki ('640) teaches homogenizing material such as oats or barley rapidly (*See col. 2, ll. 24-40.*) for the purpose of providing high yielding product (*See col. 2, ll. 24-40.*). Regarding the homogenizing pressure, it would have been obvious to one having ordinary skill in the art to adjust the amount of pressure to the above value for the intended application since it has been held that discovering an

optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Therefore, it would have been obvious to homogenize Camburn's ('175) material as taught by Lehtomaki ('640) in order to provide high yielding product.

#### **ANSWERS TO APPLICANT'S ARGUMENTS**

6. In response to Applicant's arguments (*See p. 9, para. 3 of Applicant's Paper filed 7/6/2010.*) that Camburn does not teach oat, rye or oat bran concentrate per amended claim 1, it is noted that the Examiner concurs, however, the newly cited Morgan reference teaches oat, rye and wheat grains as being alternative sources of  $\beta$ -glucan to barley.

7. In response to Applicant's arguments (*See p. 9, para. 4 of Applicant's Paper filed 7/6/2010.*) that the crushing energies taught by Camburn concern vegetable materials and not the oat, rye or oat bran concentrate per amended claim 1, it is noted that said arguments are not persuasive. As discussed above, the newly cited Morgan reference teaches oat, rye and wheat grains being alternative sources of  $\beta$ -glucan to barley and alternatively milled. There is not anything nonobvious about the energy used to mill these very similar alternative grains.

8. In response to Applicant's arguments (*See p. 9, para. 5 to p. 6, para. 2 of Applicant's Paper filed 7/6/2010.*) that Camburn does not teach crushing vegetable material to improve their solubility and wheat flour does not teach an appreciable amount of  $\beta$ -glucan, it is noted said arguments are not persuasive. A person having ordinary skill in the art would have known that the solubility of the  $\beta$ -glucan in Camburn

increases as the grain is crushed and the size is reduced. The newly cited Morgan reference also teaches extracting  $\beta$ -glucan from the claimed grains.  $\beta$ -glucan is extracted from the grains to improve the value of the grains.

9. In response to Applicant's arguments (*See pp. 10-11 of Applicant's Paper filed 7/6/2010.*) that claim 12 is allowable because claim 1 is allowable and Lehtomaki does not teach the homogenizing pressure, it is noted that said arguments are not persuasive. The Examiner does not disagree that Lehtomaki does not expressly disclose the homogenizing pressure, however, the purpose of Lehtomaki is the same as Applicant and a person having ordinary skill in the art would know how to adjust the pressure to provide the desired properties of the product. Furthermore, the claimed pressure is broad.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of



the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRENT T. O'HERN whose telephone number is (571)272-6385. The examiner can normally be reached on Monday-Thursday, 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571) 272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brent T O'Hern/  
Examiner, Art Unit 1783  
July 16, 2010

/David R. Sample/  
Supervisory Patent Examiner, Art Unit 1783